IN THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

Claim 1 to 9 (canceled).

Claim 10 (currently amended): A method for limiting maintenance loads applied to a fuel assembly of a nuclear reactor in order to compensate for hydraulic thrust of cooling water passing through the fuel assembly during operation in the nuclear reactor, comprising:

providing a configuration for limitation of maintenance loads in a nuclear reactor, the configuration comprising the fuel assembly comprising a framework that contains a cluster of fuel rods parallel with each other and that is closed at ends by transverse end pieces that are perpendicular to a longitudinal direction of the fuel assembly in which the cooling water flows, each of the end pieces comprising at least two axial centering through-holes that are intended each to receive ~~one of~~ a centering pin of one of a lower core support plate and an upper core plate, wherein a resilient bush is configured for frictionally engaging the centering pin, for at least one centering hole, of at least one of the end pieces of the fuel assembly, the resilient bush comprising an annular member having a fixing portion which is in contact with the centering hole of the end piece, over a portion of an axial length thereof, at least two flexible arms that are separated from each other by at least two apertures of axial direction over another portion of the axial length of the resilient bush, between the fixing portion thereof and a free end of the bush, the portion of the bush comprising the flexible arms having an outer diameter smaller than the diameter of the centering hole and an annular supporting surface that projects radially inside the bush in the free end portion of the flexible arms that have an inner diameter that is smaller than the diameter of the centering pins wherein the centering hole of the at least one end piece of the fuel assembly is constructed to have a

diameter that is substantially equal to the outer diameter of the fixing portion of the resilient bush, and wherein the resilient bush is fixed in the through-hole of the at least one end piece.

Claim 11 (previously presented): The method according to claim 10, wherein the resilient bush is fixed in the hole of the end piece of the fuel assembly by at least one of crimping, expansion-rolling, welding and screwing.

Claim 12 (previously presented): The method according to claim 10, wherein the resilient bush is fixed in the through-holes of one of the end-pieces of the fuel assembly and preferably in the through-holes of the bottom end-piece.

Claim 13 (withdrawn): The method according to claim 10, wherein the resilient bushes are fixed in the through holes of each of the top and bottom end pieces of the fuel assembly.

Claim 14 (previously presented): The method according to claim 10, wherein the resilient bushes are constructed to have an inner diameter that is greater than a diameter of a cylindrical engaging portion of the centering pins in order to take into consideration tolerances with respect to the diameter of the cylindrical engaging portion of the centering pin and the spacing between the centering pins that are intended to be engaged in the end piece of the fuel assembly.

Claim 15 (withdrawn): The method according to claim 10, wherein supporting surfaces are provided in elliptical shape and support surfaces of circular form for contact with the centering pin at the annular supporting surface inside the bush, to optimize contact and friction of the centering pin with the supporting surface of the resilient bush during displacements of the fuel assembly in a vertical direction under action of the hydraulic thrust.

Claim 16 (currently amended): A fuel assembly of a nuclear reactor comprising:

a framework having a cluster of fuel rods parallel with each other and that is closed at ends by transverse end-pieces that are perpendicular to the longitudinal direction of the fuel assembly in which cooling water flows, each of the end-pieces comprising at least two axial through-holes that each receive ~~one of~~ a centering pin of one of a lower core plate and an upper core plate;

a resilient bush that is fixed, inside at least one through-hole of at least one of the end-pieces of the fuel assembly, the bush comprising

an annular member that has a fixing portion which is in contact with the through-hole over a portion of the axial length thereof;

at least two flexible arms that are separated from each other by at least two apertures of axial direction over another portion of the axial length of the bush ~~comprised~~ located between the fixing portion and a free end of the bush, the two flexible arms having an outer diameter that is smaller than the diameter of the fixing portion and an annular supporting surface that projects radially inside the bush in a free end portion of the flexible arms that have an inner diameter that is smaller than the diameter of the centering pins that are inserted into the through-holes of the end piece.

Claim 17 (previously presented): The fuel assembly according to claim 16, wherein the through-holes of the end piece of the fuel assembly in which a resilient bush is fixed have a diameter that is substantially greater than the diameter of the centering pins, the diameter of the through-holes being determined by an equation DD=DB+DI-DC wherein DD is the hole diameter of the through-hole of the end-piece, DI is an inner diameter of a flow portion of the resilient bush, DB is the outer diameter of the flexible arms of the bush and DC is the diameter of the internal supporting portion of the resilient arms of the bush.

Claim 18 (previously presented): The fuel assembly according to claim 16, wherein the inner diameter of the flow portion of the resilient bush is greater than the diameter of a centering pin to account for tolerances with respect to the diameter of the centering pins and the spacing of the centering pins that are inserted in the end-piece of the fuel assembly.